Remarks

Claims **1-5, 7-15,** and **25** are under examination.

Claims **8, 10-13,** and **25** are deleted

Objections to the Claims

Claim **7** has been amended to include the missing word "of".

Objections to the Specification

The specification is objected because the range of 10-50 for the panel of restriction enzymes is found in the specification. Claim **8** is deleted.

The specification is objected because of the embedded hyperlink. Applicants have deleted the hyperlink citation by replacing the whole first paragraph at page 14.

Claim Rejections under 35 USC § 112

Claims 11 and 12 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants have deleted claims **10-13,** therefore this rejection is not moot.

Claim Rejections under 35 USC § 102

Claims **1-4**, and **10-13** are rejected under 35 U.S.C. § 102(b) as being anticipated by Tomb *et al.* The rejection is respectfully traversed. In order for a reference to anticipate an invention, that reference must recite each and every element of the claimed invention. Applicants respectfully submit that Tomb *et al.*, fails to meet this legal requirement. The present application describes a 5-step method of identifying the location of a mutation in the genome of a particular organism. Tomb *et al.,* teaches the use of DNA transposon mutagenesis for isolation of DNA, re-introduction of the fragments into H. influenza and measurements of the transformation efficiency. Applicants assert that Tomb *et al.*, fails to perform all the steps disclosed in claim **1**, specifically step (e). Claims **2-4**, are dependent on claim **1,** therefore, Applicants respectfully sustain that the article of Tomb et al., does not anticipate claims **1-4.** Claims **10-13** are deleted.

Claim Rejections under 35 USC § 103

Claims **7, 14, 15 and 25** are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tomb *et al.*, in view of Smith *et al.* The Office Action states that it would have been obvious to one skilled in the art at the time the invention was made to use Tomb *et al* method for transforming mutated, digested DNA fragments in to *H. influenza* and then performing a restriction map with Smith *et al.*, restrictions enzymes. Applicants respectfully disagree.

It is well established law that the PTO has the burden under 35 U.S.C. §103 to establish a case of *prima facie* obviousness (In re Fine, 5 USPQ2d 1596, 1599 (Fed. Cir. 1988)). To satisfy this burden, an Examiner must identify both (i) a suggestion to modify a primary reference in accordance with the teachings of one or more secondary references to achieve the claimed invention and (ii) a reasonable expectation of success in making and using the modified procedure (In re Vaeck, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991)). Furthermore, both the suggestion and the reasonable expectation of success must be founded in the prior art, not in the applicant's disclosure (In re Dow Chemical Co., 5 USPQ2d 1529, 1531 (Fed. Cir. 1988)). The modification must be more than just "obvious to try", which the Court of Appeals for the Federal Circuit has rejected as a standard for obviousness (In re O'Farrell, 7 USPQ2d 1673 (Fed. Cir. 1988)). Moreover, in combining references, the Examiner may not use an applicant's disclosure as a guide or template to select elements or features from among prior art references which, when assembled together, arrive at the claimed invention (In re Fritch, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992).

The article of Tomb *et al.* discloses the use of DNA transposon mutagenesis for isolation of DNA, re-introduction of the fragments into H. influenza and measurements of the transformation efficiency. Smith *et al.* is a review article in which discloses the use of a series of restriction enzymes useful for pulse field gel electrophoresis of DNA. Claims **7, 14** and **15** (dependent on claim **1)** only claim the choice of restriction enzymes that can be used in step (b) of the present invention. Claim **25** is deleted. First, nowhere in Tomb *et al.*, it is suggested the use of restriction enzymes of the kind disclosed in the present invention, and nowhere in Tomb *et al.* and Smith *et al.* it is suggested that by correlating the transformation frequency to the locations of the restriction enzyme sites

used for the DNA fragmentation, it would be possible to deduce the location of the mutations. Second, both articles have been available to the public for more than a decade. During the years preceding the present application, the teachings of these references – and others as cited in the present specifications – were never combined in any way to provide a method of identifying the location of a mutation in the genome of a particular organism in the way it is described in the present invention. Therefore, Applicants respectfully sustain that the obviousness rejection is being a mere speculation laced with forbidden hindsight.

Claim **5** is rejected under 35 U.S.C. § 103(a) as being unpatentable over Tomb *et al.*, in view of Ivanova *et al.* Applicants respectfully disagree. The Examiner is combining the two references in view of Ivanova's disclosure of *B. cereus*, which is one of the bacterium disclosed in claim **5**. Applicants reiterate the foregoing arguments stressing that none of the two references alone or combined teach, suggest or disclose the correlation of the transformation frequency obtained to the locations of the restriction enzymes site fragments in order to provide information regarding mutation locations. .

Claim **8** is rejected under 35 U.S.C. § 103(a) as being unpatentable over Tomb *et al.*, in view of Kent et al. Claim **8** has been deleted.

Claim **9** is rejected under 35 U.S.C. § 103(a) as being unpatentable over Tomb *et al.*, in view of US 6,207,442. Applicants respectfully disagree because step (c) *i.e.,* introducing the DNA fragments of a mutated organism into a non-mutated organism to transform it into one expressing the mutated phenotype, is only one of the steps of the present invention. The two references alone or combined do not teach or suggest a method for identifying the location of a mutation by correlating the transformation frequency to the known locations of the restriction enzymes that were used during the DNA fragmentation.

Conclusion

Applicants respectfully submit that all rejections and objections have been adequately addressed. Applicants respectfully submit that in view of the amendments and remarks set forth above, all claims are in conditions for allowance, and respectfully request the Examiner to withdraw all rejections and allow the claims.

The Commissioner is hereby authorized to charge any additional Filing Fees required under 37 CFR §1.16, as well as any patent application processing fees under 37 CFR §1.17 associated with this communication for which full payment had not been tendered, to Deposit Account No. 01-0025.

Respectfully submitted,
Bruce A. Beutel, et al.

ABBOTT LABORATORIES
Customer No.: **23492**
Telephone: (847) 935-4314
Facsimile: (847) 938-2623

Gabryleda Ferrari-Dileo
Registration No. 55,174
Attorney for Applicants